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APPLICATION NO.	FI	LING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,002	10/674,002 09/30/2003		Won Hee Lee	P24370	2803
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		ERNSTEIN, P.L.C	NORMAN, MARC E		
1950 ROLAND CLARKE PLACE RESTON, VA 20191				ART UNIT	PAPER NUMBER
1231011,				3744	

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Application/Control Number: 10/674,002

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 5-7, 11, 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsenz in view of Leimbach et al.

As per claim 1, Alsenz teaches an air conditioner comprising a plurality of compressors (12, 14, 16, etc), one of which is variable capacity (column 1, lines 58-66), inlet and outlet pipes (Figure 1), a condenser 25, an expansion valve 30, and microcomputer 10 controlling expansion valve 30 (via control signal 33). Alsenz does not teach controller 10 controlling the expansion valve to be opened by a designated degree to achieve rapid compressor pressure equilibrium when a compressor is stopped and then restarted. Leimbach et al. teaches control of an air conditioning expansion valve wherein the valve is opened when the compressor is stopped

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(column 2, lines 5-6) so that pressure equilibrium is rapidly achieved (column 1, lines 13-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the pressure equalization expansion valve control of Leimbach et al. to the system of Alsenz for the purpose reducing the torque on the compressors when they are restarted (Leimbach et al., column 1, lines 19-25), and further since the basic concept applies equally to a system that comprises only one or a plurality of compressors.

As per claim 2, Leimbach et al. further teaches the system being applied such that the pressures on the suction and discharge sides of the compressor are equalized (column 1, lines 17-19).

As per claim 5, Leimbach et al. further teaches closing the port when pressure equilibrium is achieved (column 2, lines 17-20).

As per claim 6, see discussions of claims 1 and 2, above.

As per claim 7, see discussion of similar claim 5, above.

As per claim 11, Alsenz teaches stopping one or more compressors in accordance with a decrease in load. Again, Alsenz does not teach controlling the expansion valve to be opened by a designated degree to achieve rapid compressor pressure equilibrium when a compressor is stopped. Again, Leimbach et al. teaches control of an air conditioning expansion valve wherein the valve is opened when the compressor is stopped (column 2, lines 5-6) so that pressure equilibrium is rapidly achieved (column 1, lines 13-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the pressure equalization expansion valve control of Leimbach et al. to the system of Alsenz for the purpose reducing the torque on the compressors when they are restarted (Leimbach et al., column 1, lines 19-25), and

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further since the basic concept applies equally to a system that comprises only one or a plurality of compressors.

As per claim 12, see discussion of similar claim 5, above.

As per claim 16, see discussions of claims 11 and 5, above.

Allowable Subject Matter

Claims 3, 4, 13-15, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-10 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 703-305-2711. The examiner can normally be reached on Mon.-Fri., 8:00-5:30, with first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on 703-308-2597. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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MN

MARC NORMAN PRIMARY EXAMINER